Human Rights as Political Determinants of Health: A Retrospective Study of North Korean Refugees

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Abstract

Introduction: The gravity, scale, and nature of human rights violations are severe in North Korea. Little is known about the mental health consequences of the lifelong exposures to these violations.

Methods: In 2014–2015, a retrospective study was conducted among 383 North Korean refugees in South Korea using respondent-driven sampling to access this hidden population. This study collected information on the full range of political and economic rights violations and measured post-traumatic stress disorder, anxiety and depression symptoms, and social functioning by standard instruments. Multivariate regression analysis was performed with the adjustment of political, economic, and demographic variables in 2016–2017.

Results: The results indicate elevated symptoms of anxiety (60.1%, 95% CI=54.3%, 65.7%), depression (56.3%, 95% CI=50.8%, 61.9%), and post-traumatic stress disorder (22.8%, 95% CI=18.6%, 27.4%), which are significantly associated with exposures to political rights violations (ten to 19 items versus non-exposure: anxiety AOR=16.78, $p<0.001$, depression AOR=12.52, $p<0.001$, post-traumatic stress disorder AOR= 16.71, $p<0.05$), and economic rights violations (seven to 13 items versus non-exposure: anxiety AOR=5.68, $p<0.001$, depression AOR=4.23, $p<0.01$, post-traumatic stress disorder AOR=5.85, $p<0.05$). The mean score of social functioning was also lower in those who were exposed to political (adjusted difference= −13.29, $p<0.001$) and economic rights violations (adjusted difference= −11.20, $p<0.001$).

Conclusions: This study highlights mental health consequences of lifelong human rights violations in North Korea. Beyond the conventional approach, it suggests the need for a

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collaborative preventive response from global health and human rights activists to address human rights in regard to mental health determinants of the 20 million people in North Korea.

INTRODUCTION

Despite transformative social changes in the Democratic People's Republic of Korea (or North Korea) over the last 20 years, North Korea has been designated one of the worst countries in matters concerning humanitarian issues and human rights.[1,2] The totalitarian nature of the political system has persisted into the 21st century.[3] North Korean institutions and officials continue to commit systemic, widespread, gross human rights violations.[4–7] Findings from the UN's Commission of Inquiry on Human Rights indicated that North Koreans frequently experience torture, inhumane treatment, discrimination, arbitrary arrest, detention, executions and disappearances, and forced labor; as well as complete denial of freedom of thought, expression, and religion and freedom of movement and residence.[8] In addition, although international sanctions have been intensified against North Korea because of their nuclear threats, the livelihood of the North Korean population has been distorted. North Koreans have suffered from lack of access to food and health services in the malfunctioning social system.

Although studies have examined the prevalence of mental health problems and their associations with traumatic events, such as natural disasters, wars, and conflicts,[9–14] such mental health problems have not been examined using a comprehensive human rights framework. In North Korea, gross human rights violations have been normalized into everyday life and have deeply affected the psychosocial environment of North Koreans. However, little is known about whether and how human rights violations function as determinants of mental health and social functioning of the affected population. Therefore, this study aims to examine how political and social determinants, in the form of human rights violations, are associated with symptoms of depression, anxiety, post-traumatic stress disorder (PTSD), and social functioning. The study hypothesizes that North Koreans with exposures to political and economic rights violations will have more psychiatric symptoms and poorer social functioning.

METHODS

In collaboration with the U.S. Centers for Disease Control and Prevention and the Korean Institute for National Unification, the study team conducted a respondent-driven sampling (RDS) of 383 North Koreans (aged 18 years) in urban communities in South Korea between September 2014 and January 2015, along with exploratory qualitative interviews of 34 North Koreans.

Study Sample

Because of political stigma affecting the families they left behind, North Korean refugees conceal themselves and are difficult to locate. The survey thus incorporated RDS, a peer-driven chain referral system, which has been used successfully with various hidden populations, including urban refugees.[15–18] In November 2014, ten initial participants were selected as "seeds." The study team provided three coupons to each seed in order to recruit

other eligible participants from their social networks into the study (Wave 1). When new participants contacted the survey team through contact information provided on the coupon, the survey team arranged a time and location to interview them individually. Every new participant who completed the study survey was provided three coupons for further recruitment (Wave 2). The recruitment waves were repeated until reaching equilibrium of key variables, such as sex ratio (Wave 9).

All respondents were interviewed with a structured questionnaire that took from 60 to 90 minutes to complete. Ten North Korean refugees who had experience administering questionnaires and who were trusted among local refugee communities were trained as interviewers in order to administer the study's structured questionnaire. Social network size and referral patterns (who recruited whom) were tracked and weighted to reduce biases associated with traditional chain-referral sampling.

The study protocol was approved by the IRBs of Dankook University, South Korea and Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland. RDS methods assured that all study participation was voluntary and completely anonymous. The study team only recruited new participants through distribution of three coupons by previous participants. Names, contact information, and other personally identifiable participant information were not recorded on the coupons, questionnaire, or any other documents. There was no way to link a particular questionnaire to the person who completed it. Furthermore, participants were able to choose the location (cafe, house, other) and type (one-on-one or group) of interview. A trained interviewer explained the study and the potential risks of participation and obtained written consent before the interview. Study participants received $16 in compensation per interview for their time and transportation expenses.

Measures

To develop a tool for measuring human rights violations in North Korea, the study team first conducted qualitative interviews with 34 North Korean refugees and conducted an in-depth review of the literature to obtain context-specific information on human rights violations in North Korea. Based on this information, the study team developed the Human Rights Violation Inventory in North Korea. It was then evaluated through two focus-group discussions with an expert panel consisting of a human rights activist, psychiatrist, political scientist, and North Korean refugee worker.

Political and civil rights violations were measured with 19 items spanning five human rights violation categories (Cronbach's $\alpha=0.83$). Torture and inhumane treatment (two items) included items that fell within the UN Convention Against Torture definition of torture, "any intentional infliction of severe mental or physical pain or suffering by or with the consent of state authorities for a specific purpose." Discrimination (three items) consisted of three questions related to discrimination based on political status, gender, and other unspecified stigma. Violation of freedom of movement and residence (four items) was identified as any restriction on travel or residence, banishment, or enforced family separation. Violation of freedom of thought, expression, and religion (six items) was defined by: if a respondent experienced political persecution because of religion, suspicion of loyalty, political opinion or political misconduct of family; or if he or she was a target of ideological criticism and

surveillance. Arbitrary arrest, disappearance, and detention (four items) was defined by: a respondent's experience of imprisonment without a legal procedure, the disappearance of a family member, the death of a family member or person close to him/her in detention, or the witnessing of a public execution.

Social and economic rights were measured with 13 items under four human rights violation categories (Cronbach's α=0.87). Violation of the right to food (five items) was determined by three items adapted from the U.S. Agency for International Development Food and Nutrition Technical Assistance Project Household Hunger Survey[19,20] and two questions related to experience of life-threatening starvation. Violation of the right to health (three items) was identified if a respondent experienced severe sickness or death of a family member without adequate healthcare access or life-threatening exposure to severe cold. Forced labor (three items) was defined as a respondent being forced to work for Worker's Party of Korea or the army, or in detention, or if he/she was forced to work without compensation. Violation of the right to labor (two items) was indicated if a respondent did not have a lawful means of livelihood for survival or his/her means of livelihood was threatened by a state actor.

These questions specifically asked the person to recall events that occurred within North Korea. Each event was reported with a 10-year recall period prior to displacement. If participants answered *yes* to any of the relevant items, participants were considered to be exposed to that category of human rights violations.

The mental health questionnaire consisted of three standard instruments to assess symptoms of anxiety, depression, PTSD, and social functioning using a 1-month recall period. Symptoms of anxiety and depression were measured using the Hopkins Symptom Checklist-25, a screening tool that includes ten items for anxiety and 15 items for depression using a 1.75 threshold score to predict clinically relevant symptoms of each.[21–25] PTSD symptoms were measured with the Harvard Trauma Questionnaire.[22,26] Elevated symptoms of PTSD were determined by using a scoring algorithm with a 2.5 cut-off value for arousal, avoidance, and reexperiencing symptoms.[27,28] Social functioning was measured with the six major items selected from the 36-Item Short-Form Health Survey that assessed general health perception, bodily pain, social role functioning, and emotional role functioning.[13,29–31] The raw score of the questions selected from 36-Item Short-Form Health Survey was transformed to fit a 0 to 100 scale by using a standard formula recommended in the user's manual. Higher scores represented better functioning in the scheme.[32]

This study also gathered information on the political status and socioeconomic position in North Korea from each respondent. Their political status was measured by his or her *Songbun*, a state assigned social class based on the family background that reflects assumed political loyalty, and a membership in the Worker's Party of Korea, another visible indicator of a high political status.[5] Given the unstable and transitional economy, a household wealth index was generated through principal components analysis based on household ownership of 14 consumer items.[33,34] Demographic information in North Korea included the region of residence, type of region (urban or rural), state-assigned job, educational level achieved,

number of children left behind, gender, age, and marital status. Reasons for displacement and patterns of displacement were also collected.

Statistical Analysis

Prevalence estimates and CIs were adjusted for RDS using RDSAT, version 7.1. On the basis of information about social network size and recruitment patterns tracked by coupon numbers, potential biases from differential social network size and homophily (range, −1 [heterogeneous] to 1 [homogeneous]) and the tendency of people to recruit people similar to themselves were adjusted by weighted data from RDSAT. Bivariate analyses with the main outcomes of interest that had a *p*-value of 0.1 were performed using forward stepwise selections of political, economic, and demographic variables. Multivariate regression analyses were then performed. Although RDS-adjusted and unadjusted prevalence estimates were used in the descriptive analysis, the interpretive analysis presented shows RDS-adjusted estimates only. These analyses were conducted in 2016–2017.

RESULTS

Table 1 displays sociodemographic characteristics of respondents in the final sample, excluding the ten initial participants who were selected by the study team. The crude sex ratio distribution was 71.8% (95% CI=67.0%, 76.2%) women and 28.2% (95% CI=23.8%, 33.0%) men, similar to the estimated 71.8% women and 28.2% men in the entire refugee population resettled since 1999.[35] Most respondents had a middle school or higher education. Of participants, 31.0% (95% CI=25.1%, 37.8%) had membership in the Workers' Party of Korea, which reflects higher political status. Additionally, 64% (95% CI=57.1%, 71%) reported extreme poverty in North Korea, with a household income <US$1 per day.

Regarding exposure to human rights violations in North Korea, 29.3% (95% CI=24.7%, 35.2%) of respondents suffered torture and inhumane treatment; 49.1% (95% CI=42.1%, 53.9%) experienced discrimination; 74.6% (95% CI=68.4%, 80.0%) had no freedom of movement and residence; and 63.8% (95% CI=57.3%, 69.5%) experienced denials of freedom of thought, expression, and religion. In addition, North Korean respondents reported systematic violations of the right to food (66.8%, 95% CI=60.1%, 73.1%), right to health (53.3%, 95% CI=46.7%, 60.2%), and right to livelihood (49.5%, 95% CI=41.9%, 56.1%). Forced labor was also common (70.3%, 95% CI=64.3%, 75.9%).

The estimated prevalence of anxiety, depression, and PTSD symptoms and mean scores of social functioning and social distress after resettlement are shown in Table 2. Of respondents, 60.1% (95% CI=54.3%, 65.7%) had elevated anxiety scores, 56.3% (95% CI=50.8%, 61.9%) had elevated depression scores, and 22.5% (95% CI=17.7%, 27.4%) met the symptom criteria for PTSD. In addition, participants showed low mean scores of social functioning, including general health perception (29.5), bodily pain (48.7), and social (73.0) and emotional role functioning (58.6).

The associations between psychiatric symptoms, social functioning, and human rights violations were examined in multivariate analysis adjusted for covariates related to political and economic status in North Korea, social discrimination in resettlement, and other

sociodemographic variables (Table 3). Symptoms of anxiety (AOR= 16.78, $p < 0.001$), depression (AOR=12.52, $p < 0.001$), and PTSD (AOR=16.71, $p < 0.05$) were significantly higher among respondents who were exposed to more political and civil rights violations (ten to 19 items) compared with those who were not exposed to these violations. The frequency of exposure to social and economic rights violations was also strongly associated with elevated symptoms of anxiety (AOR=5.68, $p < 0.001$), depression (AOR=4.23, $p < 0.01$), and PTSD (AOR=5.85, $p < 0.05$). Similarly, respondents who experienced these rights violations were more likely to have lower mean social functioning scores.

More specifically, there were statistical associations between these health indicators and each type of human rights violation. Higher odds of reporting poorer mental health were observed among respondents who were exposed to traumatic events, such as torture and inhumane treatment, arbitrary arrest, disappearance, and detention. However, respondents exposed to political violence and discriminatory policies had even higher odds of reporting mental health symptoms, especially those who did not enjoy freedom of movement and residence (PTSD AOR=3.44, $p < 0.01$), as well as freedom of thought, expression, and religion (PTSD AOR=3.01, $p < 0.01$). Higher odds of mental health symptoms, furthermore, were notable in those who suffered from systematic violations of rights to food (Anxiety AOR=2.28, $p < 0.05$, Depression AOR=2.54, $p < 0.01$, PTSD AOR=2.91, $p < 0.05$), rights to health (Anxiety AOR=3.64, $p < 0.001$, PTSD AOR=3.59, $p < 0.001$), and rights to livelihood (Anxiety AOR=1.93, $p < 0.05$, Depression AOR=1.79, $p < 0.01$, PTSD AOR=2.80, $p < 0.01$). Similarly, participants exposed to each category of political and economic rights violations were more likely to have lower mean social functioning scores.

DISCUSSION

The study results highlight widespread, systematic, gross human rights violations as mental health determinants of North Koreans, considering political, economic, and demographic factors in North Korea. The prevalence of anxiety, depression, and PTSD symptoms among North Korean refugees were notably high compared with anxiety (6.8%), depression (3.1%), and PTSD (0.6%) in South Koreans,[36] and similar or at even higher levels than symptoms reported in major complex humanitarian emergencies, such as natural disaster or conflict.[13,14,31,37–42] Mean scores of general health perception and bodily pain, social and emotional role functioning were similar or relatively lower than that of a postconflict situation, such as the post-war Afghanistan population (mean scores: 39.2, 49.0, 57.2, and 56.7, respectively).[13] These psychiatric symptoms and social functioning were significantly associated with systematic violations of political and economic rights in North Korea. The study results indicate that life-long exposure to human rights violations can have significant consequences on the well-being of survivors and their communities.[43]

This study is unique in that it measured a wide range of human rights violations not only as potentially traumatic events,[44,45] but also as political determinants of mental health.[46,47] In order to detect the potential effects of a broad array of political and social exposures, this study measured a diverse set of human rights violations. Psychiatric symptoms were not only associated with traumatic events, such as torture, but were prevalent among North Koreans who had suffered from systematic violations of basic human rights, such as

freedom of movement and residence; freedom of thought, expression, religion; and rights to food, health, and livelihood. These rights violations also resulted in lower scores of social functioning. Political violence and discriminatory policies are not often considered as traumatic events but are still human rights violations. Lifelong exposures to these violations could affect health directly and indirectly.[47–50] These findings will extend the prevention framework with respect to a full array of political and social disruptions that are reflected in mental health conditions.

The study findings may challenge traditional understandings of refugee health that have paid more attention to traumatic experiences during forced migration than to political and social determinants of health that have been embodied prior to displacement. Human rights violations have been found to be significant determinants of poor mental health in some populations, but are outside the usual scope of psychiatric and social epidemiology.[51–54] These findings may expand the epidemiologic view to include political determinants in the past as well as the present. Policymakers and health professionals should pay more attention to human rights violations as potential determinants to mental health status in vulnerable populations, and human rights frameworks need to be considered for screening of individuals at risk for mental illness and accordingly for the development of preventive interventions. Such efforts may help to identify mental health risk factors related to human rights abuses at an early stage of displacement or resettlement and to establish comprehensive prevention programs.

Limitations

Given the lack of access to the North Korea population, the study findings may be helpful in explaining the mental health consequences of human rights violations on the population. In the interpretation of the findings, however, certain methodologic limitations should be considered. First, the study findings are based on retrospective data from a North Korean refugee population and are not necessarily generalizable to the entire population in North Korea. For example, survival bias could have resulted in under-representation of those who were exposed to more severe human rights abuses in North Korea, such as political prisoners and those with poor mental health status, because they may be less likely to escape North Korea. Second, although a population based random sampling is nearly impossible in the North Korean refugees who mostly conceal themselves because of political stigma, certain limitations inherent to RDS methods apply to this study.[55–57] Third, the mental health instruments, such as the Harvard Trauma Questionnaire and Hopkins Symptom Checklist, were not specifically validated in the context of North Korean refugees in South Korea. However, these scales have been validated in various other contexts of political violence, conflict, and forced migration,[27,28] and used in North and South Korean populations.[9] Fourth, it was impossible to establish temporality between key variables and mental health outcomes using a cross-sectional design. Lastly, the long recall period may have created a bias toward the null for associations presented in this study, although it should be less difficult to remember especially severe human rights violations because of the intensity of traumatic memory.

CONCLUSIONS

To the best of the authors' knowledge, this study is the first to provide epidemiologic evidence of systematic human rights violations in North Korea and the mental health consequences of the lifelong exposures to these violations. It is timely and significant, not just to understand their impact on the North Korean population, but because it may offer some insight into human rights violations with regard to determinants of the mental health status of politically marginalized populations around the world. Beyond the conventional approach to trauma care, these findings suggest the need for a collaborative response from global health and human rights activists to prevent widespread human rights violations and their adverse health impacts.

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Table 1.

Political Status, Socioeconomic Position, and Demographic Characteristics of Respondents

Characteristic	Crude[a]	Adjusted[b]	Homophily[c]
Gender			
Female	265 (71.6)	67.5 (59.7, 73.2)	0.208
Male	105 (28.4)	32.5 (26.8, 40.3)	0.116
Age (years)			
18–34	101 (27.5)	29.8 (24.0, 37.0)	0.134
35–59	197 (53.7)	51.3 (44.0, 57.3)	0.148
60	69 (18.8)	18.9 (13.8, 24.4)	0.111
Median (IQR) [minimum, maximum]	45 (22) [19, 80]	44 (24) [19, 80]	—
Education[d]			
Primary school or lower	9 (2.5)	2.1 (0.8, 4.1)	−1
Middle/high school	214 (58.2)	61.6 (54.9, 66.8)	0.057
College	77 (20.9)	19.9 (15.1, 24.6)	0.107
University or higher	68 (18.5)	16.4 (12.8, 22.2)	0.083
Residence[d]			
Rural	91 (25.9)	25.2 (19, 31.5)	0.175
Urban	261 (74.2)	74.8 (68.5, 81)	0.106
Marriage			
Married	62 (17)	14.3 (9.9, 18.5)	0.075
Widowed	42 (11.5)	10.7 (7.2, 14.9)	0.118
Divorced/separated	90 (24.7)	27.2 (22, 33.9)	0.121
Single, never married	27 (7.4)	7.4 (4.4, 10.8)	−0.153
Partner, left behind in North Korea	144 (39.5)	39.2 (33.1, 44.9)	0.062
Worker's Party Korea member[d]			
Non-member (respondent)	246 (68.52)	69 (62.2, 74.9)	0.147
Member (respondent)	113 (31.48)	31 (25.1, 37.8)	0.145
Non-member (household)	117 (32.23)	32.7 (26.6, 37.7)	0.031
Member (household)	246 (67.77)	67.3 (62.3, 73.4)	0.043

Characteristic	Crude[a]	Adjusted[b]	Homophily[c]
Household poverty (income)[d]			
<US$1/day	197 (61.6)	64 (57.3, 70.9)	0.038
US$1/day	123 (38.4)	36 (29.1, 42.7)	0.073
Reason for displacement			
Political reason	108 (28.1)	26.7 (21.6, 32.2)	0.091
Economic reason	150 (39.0)	39.2 (32.4, 45.9)	0.21
Family invitation	83 (21.6)	26.5 (20.2, 31.8)	0.184
Other	44 (11.4)	7.6 (5.2, 11.5)	0.058

[a] Values in this column are n (%) unless otherwise noted.

[b] Values in this column are % (95% CI) unless otherwise noted.

[c] The tendency of people to recruit people similar to themselves (range −1 [heterogeneous] to +1 [homogeneous]).

[d] Characteristics in North Korea.

IQR, interquartile range.

Table 2.

Mental Health, Social Functioning, and Social Distress in Resettlement Among North Korean Refugees

Variable	Crude		Adjusted	
	M	IQR (95% CI)	M	IQR (95% CI)
Mental health status				
Anxiety symptoms	—	60.6 (55.4, 65.6)	—	60.1 (54.3, 65.7)
Depression symptoms	—	57.4 (52.2, 62.5)	—	56.3 (50.8, 61.9)
PTSD symptoms	—	22.8 (18.6, 27.4)	—	22.5 (17.7, 27.4)
Social functioning[a]				
General health perception	30.0	25.0 (27.5, 32.5)	29.5	25.0 (27.1, 31.9)
Bodily pain	48.4	50.0 (44.8, 52.1)	48.7	50.0 (45.0, 52.5)
Social role functioning	73.1	50.0 (70.5, 75.6)	73.0	50.0 (70.4, 75.6)
Emotional role functioning	58.6	33.3 (56.1, 61.0)	58.6	33.3 (56.2, 61.1)
Social distress in resettlement				
Social discrimination	2.8	0.7 (2.7, 2.9)	2.8	0.7 (2.7, 2.9)
Social exclusion	2.6	0.8 (2.5, 2.7)	2.6	0.8 (2.5, 2.6)
Cultural discrimination	2.8	0.8 (2.7, 2.9)	2.8	0.8 (2.7, 2.8)

[a] Six items selected from 36-Item Short-Form Health Survey (range 0 [very bad] to 100 [very good]).

IQR, interquartile range; PTSD, post-traumatic stress disorder.

Table 3.

Multivariate Logistic Regression With Human Rights Violations, Political and Economic Factors as Explanatory Variables for Mental Health Status

Variable	Anxiety,[a] AOR (95% CI)	Depression,[a] AOR (95% CI)	PTSD,[a] AOR (95% CI)	Social functioning,[b] adjusted difference (95% CI)
Political and civil rights (10–19 vs non-exposure)	**16.78***** (4.20, 67.04)	**12.52***** (3.49, 44.99)	**16.71*** (1.79, 155.78)	**−13.29***** (−20.05, −6.53)
Torture and inhumane treatment	**2.20*** (1.12, 4.33)	1.47 (0.78, 2.77)	1.89 (0.94, 3.81)	**−5.67**** (−9.38, −1.97)
Discrimination	1.11 (0.64, 1.95)	0.99 (0.57, 1.71)	1.17 (0.61, 2.25)	**−4.29*** (−7.65, −0.93)
Freedom of movement and residence	1.39 (0.76, 2.55)	1.72 (0.94, 3.13)	**3.44**** (1.36, 8.70)	−0.24 (−3.98, 3.49)
Freedom of thought, expression, and religion	1.5 (0.83, 2.71)	1.2 (0.68, 2.11)	**3.01**** (1.38, 6.60)	**−5.96***** (−9.41, −2.51)
Arbitrary arrest, disappearance, and detention	**1.81*** (1.02, 3.23)	1.27 (0.73, 2.19)	**2.45*** (1.20, 5.00)	**−3.89**** (−7.28, −0.50)
Social and economic rights (7–13 vs non-exposure)	**5.68***** (2.18, 14.79)	**4.23**** (1.70, 10.53)	**5.85*** (1.52, 22.47)	**−11.20***** (−16.44, −5.96)
Rights to food	**2.28*** (1.19, 4.37)	**2.54**** (1.35, 4.78)	**2.91*** (1.25, 6.77)	**−7.55***** (−11.29, −3.82)
Rights to health	**3.64***** (2.05, 6.44)	1.52 (0.89, 2.59)	**3.59***** (1.77, 7.28)	**−5.13**** (−8.32, −1.94)
Rights to livelihood	**1.93*** (1.10, 3.41)	**1.79*** (1.03, 3.11)	**2.80**** (1.38, 5.67)	**−5.08**** (−8.46, −1.70)
Forced labor	1.01 (0.55, 1.85)	**1.92*** (1.06, 3.48)	1.41 (0.66, 3.02)	−3.29 (−6.90, 0.33)
Political, economic, and demographic factors[c]				
Songbun (hostile vs core class)	**0.23*** (0.06, 0.94)	0.29 (0.07, 1.18)	**0.20*** (0.04, 0.93)	−0.13 (−7.90, 7.64)
Household wealth (5th vs 1st highest quintile)	1.07 (0.41, 2.77)	**3.71**** (1.41, 9.76)	**4.51*** (1.42, 14.34)	−2.05 (−7.44, 3.33)
Gender (male vs female)	**0.39**** (0.20, 0.75)	0.64 (0.34, 1.21)	0.48 (0.21, 1.09)	0.98 (−2.66, 4.62)
Age	**1.02*** (1.00, 1.04)	**1.03***** (1.01, 1.05)	**1.02*** (1.00, 1.05)	0.09 (−0.01, 0.20)
Migration type (forced vs voluntary)	1.65 (0.81, 3.36)	0.79 (0.40, 1.57)	**3.55**** (1.70, 7.43)	0.43 (−3.44, 4.30)
Years of resettlement	**1.39**** (1.15, 1.69)	1.00 (0.83, 1.20)	1.10 (0.88, 1.37)	0.56 (−0.49, 1.62)

Note: Boldface indicates statistical significance (*p<0.05, **p<0.01, ***p<0.001).

[a]Multivariate logistic regressions: psychiatric symptoms associated with exposure to political and economic violation after adjustment for political, social, and demographic variables.

[b]Multivariate regressions: social functioning (range 0 [very bad] to 100[very good]) associated with exposure to political and economic rights adjusted for political, social, and demographic variables.

[c]Variables without p<0.05 (Worker's Party Korea membership, black market employments, education, region of origin, social discrimination in resettlement) are not showed in the table.

PTSD, post-traumatic stress disorder.